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09/764,544	01/18/2001	William J. Grasty JR.	9204-5	6483

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EXAMINER	
BELIVEAU, SCOTT E	

ART UNIT	PAPER NUMBER
2614	10

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/764,544	GRASTY, WILLIAM J.	
	Examiner	Art Unit	
	Scott Beliveau	2614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-27* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-27* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *12 March 2001* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 3.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Request for Information

1. Applicant's specification discloses that it is known in the art for modular video home distribution systems to comprise dual-stage amplifier circuits which allow up to 16-way splitting (IA: Page 2, Line 25-27). Applicant's claimed subject matter is directed towards a similar embodiment. Accordingly, the applicant is requested to provide all non-patent literature, published applications, or patents (U.S. or foreign) that were used to draft the instant application or was used in the invention process related to the aforementioned prior art modular video home distribution systems. See 37 CFR 1.105 (a)(1) and specifically section (iv).

Drawings

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: 11a, 11b, 11c (Page 2, Line 10). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: J100, G100, J101, C109, L104, etc. (Figure 3A), C215, S200, C209, etc. (Figure 3B). In particular, the specification mentions some reference characters associated with individual components (ex. R112 – R116), but not others. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

4. The drawings are objected to because it is not readily clear from the illustration that Figures 3A and 3B form a single embodiment such that element "265" of Figure 3A is interconnected to element "350" of Figure 3B. For clarity, the applicant is requested to add a Figure 3A/3B box similar to that shown below the "Fig. 1" label in Figure 1 of the Dinwiddie et al. reference so as to clarify that the Figures represent a single embodiment illustrated across two separate pages. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the

immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

5. Claim 16 is objected to because the recitation of "the first combiner circuit" lacks proper antecedent basis. Appropriate correction is required. For the purpose of art evaluation, the examiner shall presume that "a combiner" recited claim 1 is the "first combiner circuit" of claim 16.

Claim Rejections – 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 1-15 and 19-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dwiddie et al. (US Pat No. 6,481,013), in view of applicant's admitted prior art, in view of Goyette (US Pat No. 6,433,642), and in further view of the RF2317 and RF2320 product brochures (of record).

In consideration of claim 1, Figures 1 A/B of the Dinwiddie et al. reference illustrate a bi-directional network for facilitating the routing and distribution of diverse signals throughout a home (Col 4, Line 15 – Col 5, Line 51). The system comprises a "video amplifier circuit" [22] comprising an RF2317 amplification stage [72] that is coupled to a logical "splitter circuit" resulting in a "plurality of outputs" [24-28]. The reference, however, does not disclose nor preclude the particular usage of dual stage amplification. Applicant's admitted prior art, discloses that it is known in the art to utilize dual-stage amplifier circuits in connection with home distribution systems (IA: Page 2, Lines 25-28). Furthermore, the Goyette et al. reference discloses that it is known in the art in conjunction with systems wherein the maximum frequency is at least double that of the minimum frequency so as to utilize "electrically coupled" cascaded amplifiers in order to achieve the optimal noise and linearity required by system (Goyette et al.: Col 1, Lines 25-33). Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made so as to modify the Dinwiddie et al. amplification stage [72] so as to utilize cascading dual stages as is known in the art in home distribution systems for the purpose of implementing an amplifier design that is operable to achieve optimal noise and linearity over a large spectrum using low cost components (Goyette et al.: Col 1, Lines 34-47).

As to the selection of components, the Goyette et al. reference teaches that it is preferable to select an amplifier with a low noise characteristic and moderate linearity as the first stage and an amplifier with a better noise characteristic and improved linearity for the second stage wherein the components are implemented via low cost components (Goyette et al.: Col 1, Lines 25-33). The RF2320 and RF2317 amplifier circuits (of record) are disclosed as general purpose low-cost amplifiers that are easily cascadable and "ideal for cable TV applications" (Product Description). Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the RF2320 and RF2317 amplifiers for the purpose of utilizing low-cost cascadable amplification components as suggested by Goyettte et al.

As to the particular order of the amplifiers, as previously evidenced by Goyette et al. it is commonly known to utilize the amplifier with the lower noise as the first stage and the amplifer with the better linearity as the second stage (Goyette et al.: Col 1, Lines 25-46). Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made so as to utilize the RF2320 amplifier as the "first stage" and the RF2317 amplifier as the "second stage" in order to arrange the aforementioned components as suggested by Goyette et al.

Claim 2 is rejected wherein the "output power of the second stage amplifier is greater than 23 decibels milivolts (dBmV) and wherein the distortion of the second stage amplifier is no greater than about CTB 56 dBc, CSO 58 dBC" as evidenced by the RF2317 Product Brochure.

Claim 3 is rejected wherein the "signal gain of the first sage amplifier is greater than 15 decibels (dB) and the noise figure of the first stage amplifier is less than 3.5 dB" as evidenced by the RF2320 Product Brochure.

In consideration of claim 4, as aforementioned, the Goyette et al. reference discloses that the selection of components in connection of a first and second stage amplifier should be such that the first stage exhibits a low noise figure. Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made so as to utilize components wherein the "noise figure of the first stage amplifier is less than 1.5 dB" for the purpose of minimizing noise introduced into the system during amplification thereby reducing the likelihood of distribution errors and maintaining the distributed video signal quality.

In consideration of claim 5, as aforementioned, the "first stage amplifier is an RF2320 amplifier and the second stage amplifier is an RF2317 amplifier".

In consideration of claim 6, applicant's admitted prior art discloses that it is known in the art for home distribution systems so as to utilize "splitter circuits" of "more than 16 outputs" (IA: Page 2, Line 25 – Page 3, Line 2). Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made so as to employ "splitter circuits including more than 16 outputs" for the purpose of advantageously providing support for a larger number of ports in a home environment.

In consideration of claim 7, the Dwiddlie et al. reference discloses the usage of a "matching circuit"[80] so as to ensure that the impedance between the amplification circuitry and the distribution system are balanced. Accordingly, it would have been obvious to one

having ordinary skill in the art at the time the invention was made so as to utilize a "first matching circuit coupling the video input to the input of the first stage amplifier" and a "second matching circuit coupling the output of the first stage amplifier to the input of the second stage amplifier" for the purpose of minimizing signal loss and reflections associated with amplifier stage inputs. The Goyette reference further discloses the usage of such between stages so as to improve the input and output voltage standing waver ratio (Col 1, Lines 25-33). With respect to the "first biasing circuitry electrically coupled to the output of the first sate amplifier" and the "second biasing circuitry electrically coupled to the output of the second stage amplifier", the existence of such in conjunction with amplifiers is well known to those of ordinary skill in the art and is further disclosed in connection with the RF OUT of both RF2317 and RF2320 amplifier stages. The RF2317 Brochure further discloses the particular usage of a "direct current (DC) blocking circuit" in connection with the RF OUT pin.

In consideration of claim 8, as illustrated in Figure 2, the distribution module of Dinwiddie et al. comprises a "diplexer circuit" [86/88] that is "electrically coupled to the video input/output signal" [42/43] and a "high frequency output electrically coupled to the input of the first stage amplifier" [86] and a "low frequency connector" [88], a "return channel amplifier circuit" [72] (Col 8, Lines 29-33), and an implicit "combiner circuit" for "coupling the return channel amplifier and the second stage amplifier to the input of the splitter circuit" so as to provide a means for the upstream signals to enter the bi-directional amplifier and return via the bi-directional communication network to the cable head-end.

Claim 9 is rejected wherein the "bi-directional communications comprises digital over cable systems interface specification (DOCSIS) protocol communications" (Dinwiddie et al.: Col 5, Lines 5-31).

In consideration of claim 10, the reference discloses the usage of a "second return channel matching circuit coupling the return channel amplifier to the diplexer circuit" [80] but it does not particularly illustrate the usage of a "first return channel matching circuit" associated with the return path leading into the "combiner circuit". As aforementioned, the use of matching circuits with amplifiers is commonly known in the art. Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ a "first return channel matching circuit coupling the return channel amplifier to the combiner circuit" for the purpose of minimizing signal loss and reflections associated with amplifier stage inputs.

Claim 11 is rejected as previously set forth in the rejection of claim 1. As illustrated in Figure 2, the Dinwiddie et al. reference discloses "video distribution module" [22] for "routing a DOCISIS compatible connection with a cable network to a plurality of connection points" [34-37] (Col 5, Lines 5-31). The module [22] comprises a "cable input configured to be connected to the cable network" [42], a "diplexer circuit" [86/88] that is "electrically coupled to the cable input that splits a signal on the cable input into a forward and a return channel", an amplifier circuit [72], an implicit "combiner circuit" for "coupling the return channel amplifier and the second stage amplifier to the plurality of connection points", and an implicit "splitter circuit coupled between the . . . amplifier circuit and the plurality of connection points" so to distribute the single path input signal via a plurality of output paths.

As aforementioned, the reference does not particularly disclose nor preclude the usage of a "two stage amplifier circuit", as is known in the art per applicant's admission (IA: Page 2, Lines 25-28). Furthermore, the usage of a "two stage amplifier circuit utilizing a "first stage amplifier with a high signal gain and a low noise figure and a second stage amplifier having a high output power and a low distortion" is commonly known in the art as evidenced by the Goyette et al. reference (Goyette et al.: Col 1, Lines 25-33). Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made so as to modify the Dinwiddie et al. amplification stage [72] so as to utilize cascading dual stages as is known in the art in home distribution systems for the purpose of implementing an amplifier design that is operable to achieve optimal noise and linearity over a large spectrum using low cost components (Goyette et al.: Col 1, Lines 34-47) such as the RF2320 and RF2317 amplifier circuits (of record)

Claim 12 is rejected wherein the "output power of the second stage amplifier is greater than 23 decibels milivolts (dBmV) and wherein the distortion of the second stage amplifier is no greater than about CTB 56 dBc, CSO 58 dBC" as evidenced by the RF2317 Product Brochure.

Claim 13 is rejected wherein the "signal gain of the first sage amplifier is greater than 15 decibels (dB) and the noise figure of the first stage amplifier is less than 3.5 dB" as evidenced by the RF2320 Product Brochure.

Claim 14 is rejected wherein, as aforementioned, the Goyette et al. reference discloses that the selection of components in connection of a first and second stage amplifier should be such that the first stage exhibits a low noise figure. Accordingly, it would have been obvious

to one having ordinary skill in the art at the time the invention was made so as to utilize components wherein the "noise figure of the first stage amplifier is less than 1.5 dB" for the purpose of minimizing noise introduced into the system during amplification thereby reducing the likelihood of distribution errors and maintaining the distributed video signal quality.

Claim 15 is rejected, as aforementioned, wherein the "first stage amplifier is an RF2320 amplifier and the second stage amplifier is an RF2317 amplifier".

In consideration of claims 19 and 20, applicant's admitted prior art discloses that it is known in the art for home distribution systems so as to utilize "splitter circuits" of "more than 16 outputs" or "at least 32 connection points" (IA: Page 2, Line 25 – Page 3, Line 2). Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made so as to employ "splitter circuits including more than 16 outputs" or "at least 32 connection points" for the purpose of advantageously providing support for a larger number of ports in a home environment.

Claim 21 is rejected as previously set forth in the rejection of claim 1. As illustrated in Figure 2, the Dinwiddie et al. reference discloses "video distribution module" [22] for "routing a video connection to a plurality of connection points" [34-37] including a "video input configured to receive a video signal from at least one of an antenna or a cable network" [42] (Col 4, Lines 48-54), an amplifier [72], and an implicit "splitter circuit coupled between the . . . amplifier circuit and the plurality of connection points" so to distribute the single path input signal via a plurality of output paths. As aforementioned, the reference does not particularly disclose nor preclude the usage of a "two stage amplifier circuit", as is known in

the art per applicant's admission (IA: Page 2, Lines 25-28). Furthermore, the usage of a "two stage amplifier circuit utilizing a "first stage amplifier with a high signal gain and a low noise figure and a second stage amplifier having a high output power and a low distortion" is commonly known in the art as evidenced by the Goyette et al. reference (Goyette et al.: Col 1, Lines 25-33). Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made so as to modify the Dinwiddie et al. amplification stage [72] so as to utilize cascading dual stages as is known in the art in home distribution systems for the purpose of implementing an amplifier design that is operable to achieve optimal noise and linearity over a large spectrum using low cost components (Goyette et al.: Col 1, Lines 34-47) such as the RF2320 and RF2317 amplifier circuits (of record)

Claim 22 is rejected wherein the system comprises "at least one internal video signal input" associated with the various interconnection points between components within the distribution module, an "internal signal amplifier circuit" [72] that is "electrically coupled to the at least one internal video signal input" and an implicit "combiner circuit coupled between the two stage amplifier circuit and the splitter circuit and electrically coupled between the internal signal amplifier circuit and the splitter circuit" so as to provide a means for the upstream signals to enter the bi-directional amplifier and return via the bi-directional communication network to the cable head-end.

Claim 23 is rejected wherein the "output power of the second stage amplifier is greater than 23 decibels milivolts (dBmV) and wherein the distortion of the second stage amplifier is no greater than about CTB 56 dBc, CSO 58 dBC" as evidenced by the RF2317 Product Brochure.

Claim 24 is rejected wherein the "signal gain of the first sage amplifier is greater than 15 decibels (dB) and the noise figure of the first stage amplifier is less than 3.5 dB" as evidenced by the RF2320 Product Brochure.

Claim 25 is rejected wherein, as aforementioned, the Goyette et al. reference discloses that the selection of components in connection of a first and second stage amplifier should be such that the first stage exhibits a low noise figure. Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made so as to utilize components wherein the "noise figure of the first stage amplifier is less than 1.5 dB" for the purpose of minimizing noise introduced into the system during amplification thereby reducing the likelihood of distribution errors and maintaining the distributed video signal quality.

In consideration of claims 26 and 27, applicant's admitted prior art discloses that it is known in the art for home distribution systems so as to utilize "splitter circuits" of "more than 16 outputs" or "at least 32 connection points" (IA: Page 2, Line 25 – Page 3, Line 2). Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made so as to employ "splitter circuits including more than 16 outputs" or "at least 32 connection points" for the purpose of advantageously providing support for a larger number of ports in a home environment.

8. Claims 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dwiddie et al. (US Pat No. 6,481,013), in view of applicant's admitted prior art, in view of Goyette (US Pat No. 6,433,642), in view of the RF2317 and RF2320 product brochures (of record), and in further view of Flickinger et al. (US Pat No. 5,901,340).

In consideration of claim 16, as aforementioned, the Dwiddie et al. reference discloses "at least one internal video signal input" associated with the various interconnection points between components within the distribution unit [22], an "internal signal amplifier circuit" [72] that is "electrically coupled to the at least one internal video signal input" and an implicit "combiner circuit" so as to provide a means for the upstream signals to enter the bi-directional amplifier and return via the bi-directional communication network to the cable head-end. The reference, however, does not particularly disclose nor preclude cascading distribution modules [22] as is known in the art. In particular, the Flickinger et al. reference provides evidence that it is known in the art to cascade distribution modules in a wiring closet within a home environment (Col 1, Lines 29-38; Col 2, Lines 4-14). Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made so as to cascade the distribution units [22] within a distribution module such as a wiring closet for the purpose of providing a means by which a greater number of outlets may be serviced than by a single distribution module comprising a fixed number of ports.

Given such a modification, the system would comprises a "second combiner circuit" associated with the second distribution unit which would be "coupled between the first combiner circuit" associated with the first distribution unit and the "splitter circuit" associated with the second distribution unit and "coupled between the internal signal amplifier" associated with the first distribution unit and the "splitter circuit" of the second distribution unit in the chain.

Claim 17 is rejected wherein the "cable input receives a cable television (CATV) signal in a first frequency band and wherein each of the at least one internal video signal inputs has

an associated frequency band different from the first frequency band so that a receiver connected to one of the plurality of connection points may select one of the CATV sings or the lat least one internal video signal as a received signal by tuning to an associated frequency band for one of the signals" (Dinwiddie et al.: Col 5, Line 5 – Col 6, Line 4; Col 8, Lines 34-67; Col 17, Lines 7-27).

Claim 18 is rejected in view of the aforementioned the "at least one internal video signal input comprises a plurality of internal video signal inputs" associated with the various downstream broadcast channels. As to the particular usage of a "third combiner circuit", the Dinwiddie et al. reference suggests that it is operable to receive broadcast signals from multiple sources simultaneously (Col 4, Lines 48-54). Accordingly, the reference implicitly comprises a "third combiner circuit coupling the plurality of internal video signal inputs to the internal signal amplifier circuit" so as combine/couple the video signals derived from the plurality of sources for common distribution over the single conductor home network.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure as follows. Applicant is reminded that in amending in response to a rejection of claims, the patentable novelty must be clearly shown in view of the state of the art disclosed by the references cited and the objections made.

- The Tichauer (US Pat No. 6,362,690) discloses a system and method for impedance matching between multi-stage amplifiers.

- The Amit (US Pub No. 2004/0107445) reference discloses a DOCSIS campatible home network that utilizes a combination of splitters and bi-directional amplifiers.
- The Jelinek et al. (US Pat No. 5,826,167) reference discloses a bi-directional amplifier in conjunction with diplexers.
- The Green et al. (US Pat No. 5,166,639) reference discloses that it is known in the art to utilize multi-stage amplifiers as a means to overcome gain limitations associated with a single stage.
- The Goodman et al. (US Pat No. 6,192,399) reference discloses a home network system for distributing signals throughout a residence.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott Beliveau whose telephone number is 703-305-4907. The examiner can normally be reached on Monday-Friday from 8:30 a.m. - 6:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John W. Miller can be reached on 703-305-4795. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SEB
October 21, 2004

JOHN MILLER
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600